

JSA NUMBER: Yerington- 018 Revision No: 0 ORIGINAL: 01/04/2007 REVISION:	Company Performing the Job: Brown and Caldwell / Subcontractors	PROJECT MANAGER: Guy Graening SAFETY OFFICER: Penny Bassett
JOB TITLE OR TASK: Air Monitor/Weather Station Installation	TITLE OF PERSON(S) WHO PERFORMS JOB: BC Field Manager (Guy Graening, Brian Bass) Construction Sub-contractor (Miner's Excavation)	ANALYSIS BY: Penny Bassett REVIEWED BY: Guy Graening, Brian Bass
REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE) AND/OR PERTINENT JOB SAFETY FORMS: <i>Minimum PPE:</i> Hard hat, safety glasses, steel-toed boots, long-sleeved shirt, high visibility vest. <i>Additional PPE (as needed):</i> Leather gloves <i>Monitoring Equipment:</i> Electrical voltage meter <i>Job Safety Form:</i> BP Authorization to Work, BP Ground Disturbance Procedure		

SEQUENCE OF BASIC JOB STEPS	POTENTIAL HAZARDS	PREVENTIVE OR CORRECTIVE ACTION
1. Fencing – remove/relocate existing or install new	1. Back strain from heavy lifting of fencing materials; cuts, pinches or other hand injuries 2. Hazards working around mobile equipment include: a. loud noises can affect hearing and communication; b. people on foot can be hard to see by the equipment operator; c. equipment can roll-over on uneven terrain or with unbalanced loads 3. Uneven ground, tripping hazard.	1. Use two people or mobile equipment to lift heavy or awkward loads; use proper lifting postures; communicate lifting and carrying plans to lift partners to avoid unplanned or unanticipated moves; wear leather gloves to protect hands. 2a. Wear hearing protection, use hand signals to communicate b. Wear high visibility clothing, be sure equipment has audible back-up alarm, make eye contact with operator when working in close proximity of equipment, never work under a suspended load. c. Drive straight up/down-hill, carry loads low to the ground 3. Be aware of tripping hazards, make sure you can see your pathway when carrying a load
2. Pour concrete pads	1. Same as above	1. Same as above
3. Installation of weather towers – 30 foot tall tower bolted to concrete pad, top of tower will fold down to ground level for servicing	1. Overhead power lines 2. Use of bucket lift or scissor lift during construction – potential fall hazard.	1. Clearance of at least 20 feet should be maintained at all times during installation; be aware of reach of backhoe arm and man-lift to maintain clearance. Be sure that tower is installed in a way so that folding down does not come close to the power lines. 2. Ensure lift is situated on flat, stable surface before extending lift platform; ensure personnel are trained in the use of the lift; personnel inside extended lift should wear fall protection harness at all times and should not lean over railing.

Task: Air Monitor Weather Station Installation**JSA Number:** Yerington-018

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4. Buried electrical power line installation – Includes trenching from public power pole to air monitor location, installing electrical lines in conduit, and connecting lines at supply and equipment ends.	1. Encounter underground utility (electrical, gas, water) while trenching for new line 2. Trench cave-in while installing conduit 3. Electrocution hazard while tying into existing electrical components	1. Call USA North (800-227-2600) for underground utility locate for public utilities 24 hours before digging or schedule a private locator service for non-public utilities within the mine-site. Discuss potential buried mine-site utilities with site staff and review utility maps if available. Hand dig if conduits or pipes are encountered. 2. Do not enter trenches that are greater than waist deep without proper trench protection (trench box/shield, side sloping). A competent person should inspect trench walls to determine soil stability. Do not park heavy equipment or run moving equipment adjacent to trench wall. 3. De-energize all equipment and electrical connections, lock out and tag power supply at the source (disconnect switch or electrical panel), and confirm that equipment is adequately isolated and the lines are de-energized using an electrical voltage meter.
5. Installation of sheds and ground-level weather monitoring equipment and data-loggers. – Sheds are pre-assembled and only need to be positioned and bolted to concrete pads.	1. Mobile equipment and load lifting hazards – backhoe will be used to offload and position the sheds. Unbalanced loads could fall, causing injury or property damage. 2. Fall hazard from 8 foot ladder. 3. Electrical hazard during initial energizing and start-up of equipment – improperly installed equipment may spark, start a fire, electrify surrounding materials, or cause property damage to the monitoring equipment.	1. Ensure the weight of the load does not exceed the lifting capacity of the equipment used; ensure slings, ropes or cables are in good condition and not frayed or torn; do not drive load over rough/uneven terrain; do not walk under a suspended load. 2. Inspect ladder prior to use to ensure all steps are solid and foot pads are in-place and stable; do not stand on top two steps; always place ladder on firm, level ground with all feet on the ground. 3. Notify all personnel in area before any equipment is energized; start up equipment in a sequential manner, inspecting and testing as needed to insure proper working condition

Task: Air Monitor Weather Station Installation**JSA Number:** Yerington-018

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6.	1.	1.
7.	1.	1.